Product Information

Laser Material Processing Machine

LMBS IR-110-020-z200-C

For processing of many materials

1. Lasersystem

The laser system described in this data sheet was developed for versatile processing of various materials such as metals, ceramics, and plastics. It is suitable for applications including marking, engraving, annealing on stainless steel, dark marking on aluminum, cutting thin sheets, small-scale welding, as well as surface structuring and cleaning.

All visual representations are examples provided for illustrative purposes.
The actual product may differ from the depiction..

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Overview

1.1 Housing & Maschine	• LMBS Desktop: Compact laser marking system controlled by a laptop • Machine housing: 650 x 405 x 705 mm, Laser Class 1 • Working area: 270 x 150 x 150 mm • Marking field: 110 x 110 mm (galvo scanner) • Illumination: Well-lit and clearly visible working area • Operation: PC with keyboard and mouse, Start/Stop buttons on the device • Extraction: Connection to the working area via hose system • Safety functions: Monitoring of safety-relevant components (safety control system, laser shutter) • Standards compliance: CE marking, Laser Safety Class 1 in accordance with DIN EN 60825-1
1.2 Handling	• Precise focus adjustment with 200 mm Z-axis • Axis control: All axes programmable via software • Motorised cabin door with laser protection windows • Door opens and closes automatically during programme sequence • Safety: Hand protection to prevent crushing when closing the door
1.3 Laser & Optics	• MOPA Laser: o Fiber laser, 20 W power, minimum 1 mJ o Wavelength 1064 nm o Adjustable pulse duration (2–500 ns) for versatile markings o Air-cooled o Galvanometer system: For fast and precise marking operations • F-Theta optics: Optimised focusing
1.4 Camera System	• Live monitoring of the laser marking field • Camera image within the programming environment for easy part alignment • Precise height adjustment using pilot laser and camera
1.5 Software	• User-friendly multiCAM 3 software for controlling jobs and machine hardware • Supported languages: German, English, Spanish, French • Short setup times for different formats • Selection of various functions from an integrated library
1.6 Manual / Training	• Operating manual in English • On-site or Berlin-based instruction (duration: 1 day)
1.7 Extras	• Mechanical stop for precise component placement • External I/O interfaces for control
1.8 Options	Fiber laser up to 60 W, control and monitoring of extraction power, image recognition, rotary device, and other options for material handling, software desktop version for job preparation at the office workstation, on-site commissioning, and more.

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Technical Data

Purpose of Use	Laser processing of various materials
Type	***LMBS desktop***
Designation by Manufacturer	***LMBS IR-110-020-z200-C***
Laser Class	1
Documentation	Operating manual, software manual, circuit diagram, and other documents
Height adjustment (Z-Achse) [mm]	200
Dimensions width/depth/height [mm] without signal light	463/646/704
Weight of laser system incl. laser [kg]	~80
Electrical connection (V/A/Hz)	230/16/50
Power consumption	5,8 kW incl. air suction
Coating (colour)	RAL 5015
Allowable operating temperature	25 – 30 °C
Allowable operating humidity	20 – 80 %
Operating noise level	<65 dB (A)
Laser	Fiber laser MOPA
Wavelength	1064 nm
Optical power	20 Watt
Operating hours acc. Manufacturer	min. 20.000 h (expected 100.000 h)
Repetition rate	30-4000 kHz
Pulse width	2 - 500 ns (adjustable)
Galvanometer scanner	Aperture 10, lower drift, high accuracy Maximum processing speed approx. 2 m/s Calibrated scanner field
Scanning field [mm x mm]	110 x 110
Laseroptics	F-Theta optics, focal length 160 mm Working distance 186 mm
Focus diameter	~35 µm

Cabine door	Laser safety door with monitoring Opening and closing with motors, control via I/O (close, open, reference) and automatically during programme sequence Sensors for position monitoring Laser protection windows for clear visibility of the processing area
Elektrics	Connection for electrical components, power supplies, and safety control devices (Pilz)
Z- Axis	1 linear axis system Stepper motor, with ball screw, holding brake Z-axis 220 mm → Usable as per height adjustment specification Maximum speed 50 mm/s
GUI, Operator interface	With monitor, keyboard, and mouse Emergency stop, start, stop program on the device Status indicators via LED elements
Laptop	Laptop Display >= 14 inches Processor (at least i3) SSD storage RAM minimum 8 GB Network connection for machine connection Operating system Windows 11 Professional Pre-installed and configured for your system
Safety system	Safety system with sensors and switches Laser with external shutter Monitoring of the laser safety door and all relevant access points
Extraction connection	Connection NW50 Internally guided extraction hose to the processing area (External control and monitoring of external extraction optionally available)
GUI	multiCAM 3.8 • Windows-based control and programming interface LMBS multiCAM 3.8 • Entire workspace as programming interface • Programmable laser parameters and parameter sets • Creation of graphic elements such as circle, line, polyline, rectangle, ellipse, Bezier curves, etc. • Variable rotation, stretching, compression, and beveling of design elements • Data import from networks • Product database • Integration of external graphics such as HPGL, DXF, BMP, TIFF, JPEG, PNG, GIF • Import of STEP files, file display, and editing at the machine • Programming of any process steps as a closed job • Programmable machine parameters

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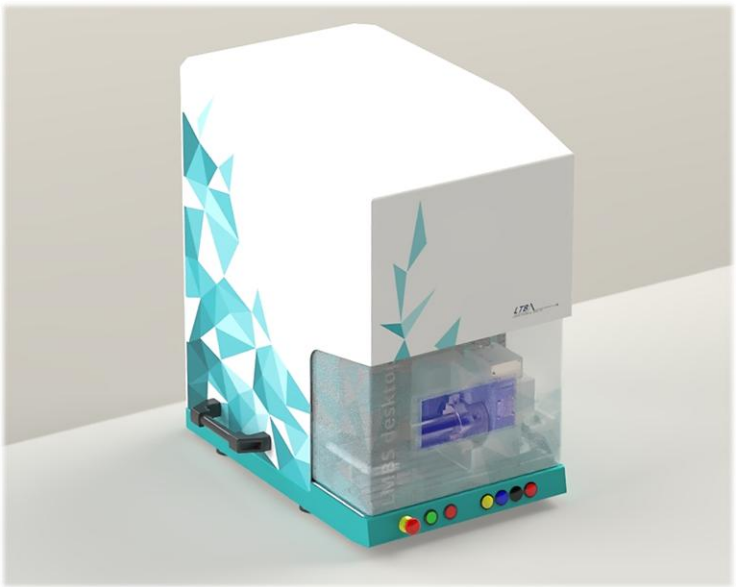
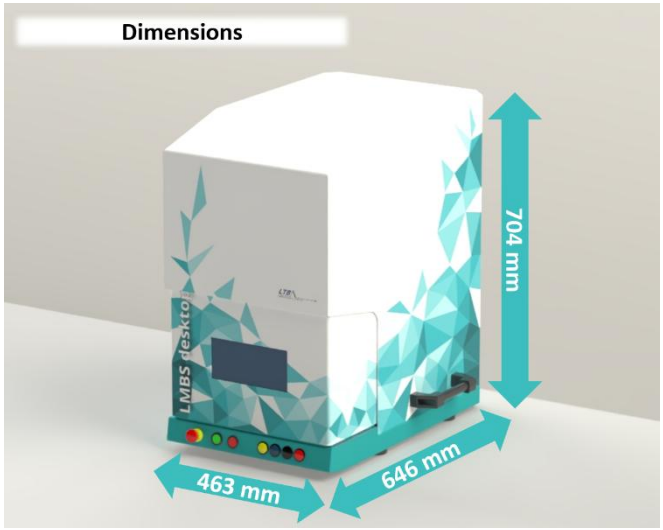
	• Process interruption for intermediate settings • Image recognition with automatic positioning • Measurement and various analysis functions • Control of an extraction system • Text marking in any direction, circular, and adaptable to any geometric shape • Programmable fill routines • Use and creation of all TrueType fonts under Windows, as well as integrated vector fonts • Counter, serial number function, integration of system data such as date, time, etc. • Import of Word and Excel tables for sequential or static text generation • Programmable matrix function for serial numbers and text • Special character font e.g., for CE marking, etc., user-expandable • Automatic generation of 1D and 2D barcodes • Feedback via camera system possible

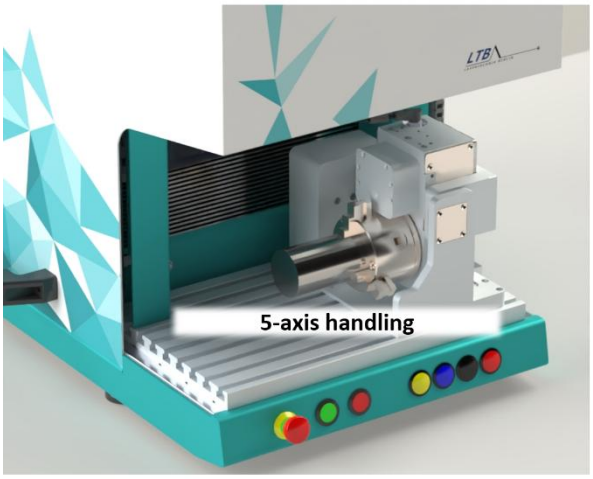
Examples

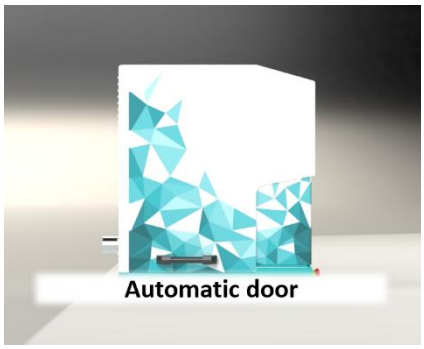
LMBS desktop



LMBS desktop dimensions, controls, views







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